

CTRAA-B
CALIBRATOR, TEMPERATURE

1. GENERAL. This procurement requires a temperature calibrator.

2. CLASSIFICATION. Type II, Class 5, Style EP in accordance with MIL-T-28800 for shipboard applications. The operating temperature range is limited to 18 to 28°C.

3. OPERATIONAL REQUIREMENTS. The equipment shall allow the operator to test temperature indicators, controllers, recorders, and transmitters by simulating and measuring the output of thermocouples and resistance temperature detectors (RTD's). The equipment shall be calibrated for readings in degrees Celsius (C) and Fahrenheit (F) to a 0.1 degree resolution. An ohms functions shall be provided for measuring the resistance of the temperature devices and their associated wiring. The specifications contained herein are minimum specifications and greater performance in any area is acceptable.

3.1 Thermocouples. The equipment shall be compatible with type K, J, T, E, N, R, S, and B thermocouples.

3.1.1 Range of simulation and measurement. -200°C to 1815°C.

3.1.2 Temperature accuracy. $\pm 2.0^\circ$ for all temperatures.

3.2 RTD's. The equipment shall be compatible with 100 and 1,000 ohm RTD's.

3.2.1 Range. -200°C to 850°C.

3.2.2 Accuracy. Simulation: $\pm 0.5^\circ$. Measurement: $\pm (0.5^\circ + 0.05\% \text{ of indication})$.

3.3 Ohms function.

3.3.1 Range. 0 to 10 kilohms.

3.3.2 Accuracy. $\pm 0.05\%$ fs.

3.3.3 Resolution. 0.1 ohm.

3.4 Display. 5-digit, LED or back-lit LCD.

3.5 Protective case. A Style P protective case shall be provided for the temperature calibrator and all accessories. The case shall be in compliance with the requirements set forth in MIL-T-28800.

4. GENERAL REQUIREMENTS.

4.1 Power source. MIL-T-28800 nominal and dc internal power source requirements are invoked as detailed below.

4.1.2 Nominal power source. Maximum power consumption: 25W.

4.1.3 DC internal power source. Internal batteries and charger are required. Minimum operating time shall be 3 hours following a maximum recharge time of 8 hours.

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4.2 Weight. 5 kg (11 lb) maximum.

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4.3 Lithium batteries. Per MIL-T-28800, lithium batteries are prohibited without prior authorization. Requests for approving the use of lithium batteries, including those encapsulated in integrated circuits, shall be submitted to the procuring activity at the time of submission of proposals. Approval shall apply only to the specific model proposed.

4.4 Accessories. The temperature calibrator shall be supplied with all probes, leads, and other accessories required to perform the operational requirements contained herein.